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Managing Capital Inflows: Assessing Indonesia's Current Constellation of Interest Rates, Exchange Rate and Inflation

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For the first time since the crisis of 1997/98, Indonesia is currently attracting substantial capital inflows that have caused the rupiah to appreciate markedly, despite sharp declines in key policy interest rates. This has raised important issues as to the appropriate combination of interest rate and exchange rate adjustment that Bank Indonesia (BI) should use to absorb the inflows. As argued below, *more aggressive SBI interest rate action* is likely to be needed if BI is to absorb the inflows without a further sharp appreciation of the rupiah. Presently, financial markets are of the view that profits are to be had in short-term rupiah assets because the exchange rate is expected to remain strong and rupiah interest rates high. Consequently, if BI continues to reduce rates at its current, measured pace, the capital inflows will likely accelerate, magnifying BI's difficulties in managing the inflows. In these circumstances, it would be better for *BI to step up the pace at which interest rates are declining*. This should be supported by the authorities removing a fiscal distortion that is attracting some of the inflows, namely *lifting the tax-exempt status of certain Mutual Funds*. In addition the *FASBI and the deposit guarantee rate could be reduced* appreciably, which would put more downward pressure on other interest rates. Furthermore, it would be helpful to *use moral suasion to accelerate the pass through of recent SBI rate declines into lending rates*.

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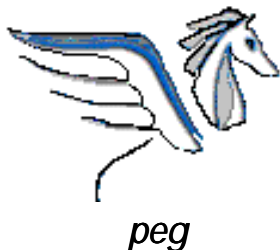
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Technical Report

Managing Capital Inflows: Assessing Indonesia's Current Constellation of Interest Rates, Exchange Rate and Inflation

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Managing Capital Inflows: Assessing Indonesia's Current Constellation of Interest Rates, Exchange Rate and Inflation

Summary

For the first time since the crisis of 1997/98, Indonesia is currently attracting substantial capital inflows that have caused the rupiah to appreciate markedly, despite sharp declines in key policy interest rates. This has raised important issues as to the appropriate combination of interest rate and exchange rate adjustment that Bank Indonesia (BI) should use to absorb the inflows. As argued below, *more aggressive SBI interest rate action* is likely to be needed if BI is to absorb the inflows without a further sharp appreciation of the rupiah. Presently, financial markets are of the view that profits are to be had in short-term rupiah assets because the exchange rate is expected to remain strong and rupiah interest rates high. Consequently, if BI continues to reduce rates at its current, measured pace, the capital inflows will likely accelerate, magnifying BI's difficulties in managing the inflows.

In these circumstances, it would be better for *BI to step up the pace at which interest rates are declining*. This should be supported by the authorities removing a fiscal distortion that is attracting some of the inflows, namely *lifting the tax-exempt status of certain Mutual Funds*. In addition the *FASBI and the deposit guarantee rate could be reduced* appreciably, which would put more downward pressure on other interest rates. Furthermore, it would be helpful to *use moral suasion to accelerate the pass through of recent SBI rate declines into lending rates*.

The External Environment

Little External Inflation. The financial environment outside Indonesia seems clear. There is little risk of increases in international interest rates during the next several months. Indeed, there could be further declines, particularly in Europe and the United States where economies remain weak and the specter of Japanese-style deflation has become a possibility. In Asia, Japan remains mired in slow growth and recession while several developing countries in the region (China, Hong Kong, Singapore and Taiwan) have been recording outright price declines in the past year or so. From the external side, this is an excellent opportunity for Indonesia to get its inflation rate and interest rates down further.

Hungry Foreign Investors. Also notable on the external side is the hunger of private foreign investors for financial assets that offer the prospect of high returns. US-dollar assets earn near-historically low yields,² while investors continue to await a rebound in international stock markets. Consequently and with a strengthening rupiah, market demand has been very strong for Indonesian (and Asian) bond issues, denominated in both rupiah and US dollars. Around the

² As of early June, the Fed Funds rate was 1.75%, compared with an historical low of 0.75%. At the same time, US treasuries earned 1.10%, 2.29% and 3.37% at 3-month, 5- and 10-year maturities, respectively.

region, only the Philippines offers yields comparable to Indonesia, and market participants currently consider Indonesia to be the preferred choice.

Source of the Inflows

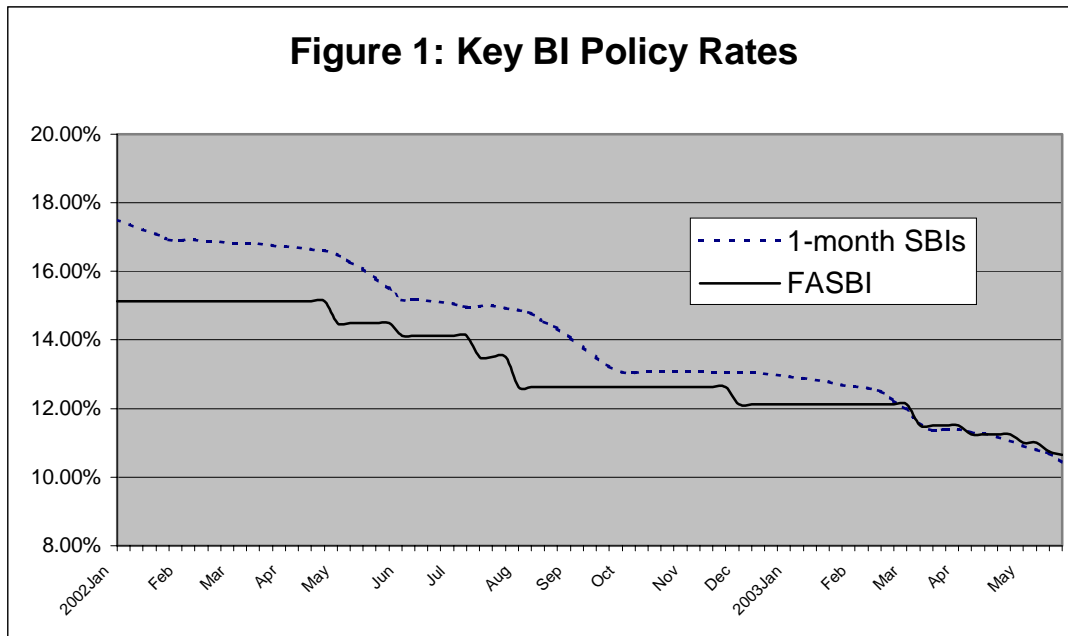
A Strong Rupiah. The rupiah has been slowly appreciating during the past year or so. Following several months of stability near Rp10,500/US\$ around the end of 2001, it has appreciated quite steadily, interrupted only by the Bali bombings of last October. In late May, it approached Rp8000/US\$. All this despite significant declines in key policy interest rates (see next Sub-Section) and official exchange rate intervention by BI.

In part, this nominal appreciation of the Rupiah reflects generalized weakness of the US dollar since the on-set of the war in Iraq. However, it also reflects a broader, real appreciation of the Rupiah, of about 20% during 2002 and another few percentage points to date in 2003.

Money Flowing In Again. Not all these inflows are short-term. Indeed, some are identifiably long-term, for example, placements of corporate bonds abroad and sales of IBRA assets. However, the greater part of these inflows appears to be short-term (with a time horizon of less than, say 3 months) capital, so-called ‘hot money’. It could take several forms, including the stock market (foreign participation surged at year-end, and picked-up in March and in May); purchases of 1-month SBIs; purchases of mutual funds (reksadana); or even placements in short-term time deposits. Private market participants particularly note foreign interest (or repatriated Indonesian off-shore assets) in Indonesian mutual funds, especially those holding government and corporate bonds (see separate note).

The Policy Response to Date

Slowing the Interest Rate Decline. As of early June, Bank Indonesia had responded to the inflows with a combination of interest rate declines, exchange rate appreciation (noted earlier) and sterilized official foreign exchange intervention. On the side of interest rates, the key 1-month SBI rate has dropped by more than 700 basis points since end-2001 (see Figure 1), including some steep declines prior to the Bali bombings (in October 2002) and around the beginning of March 2003. However, the pace of the decline slowed for the next several weeks. Also the FASBI rate (an overnight maturity) has generally settled at a level *above* SBI rates (see Figure 1), signaling that BI wants to slow the decline in SBI rates.



Slowing the Appreciation. On the side of the exchange rate, BI has been intervening actively in the foreign exchange market by buying substantial amounts of US\$ (selling rupiah),³ trying to slow the appreciation. There is evidence that these sales of rupiah have been sterilized (indeed more than fully sterilized; see Table 1), that is, open market operations have been used to offset the expansionary impact on base money. BI refers to this as ‘optimizing BI’s existing monetary instruments, primarily OMOs and foreign currency operations/sterilization [to absorb excess bank liquidity]’.⁴ Consequently, interest rates have not declined as quickly as would be expected; base money has expanded very slowly;⁵ and the outstanding stock of SBIs has increased rapidly.⁶ It’s notable that these SBI operations are expensive for BI.

³ In the amount of Rp16.1 trillion in Q1-2003, as reported in BI’s Report to Parliament for that quarter.

⁴ BI’s 2002 Annual Report, p. 63. Similar statements are made in BI’s quarterly reports to Parliament. Another instrument is changes in government deposits, but these are generally not under BI’s control.

⁵ As of end-May, the 12-month growth of base money was 9 1/2%, significantly below the target of 14% for the year. The gap between base money and its target has actually widened to date in 2003, as the level of base money declined every month during the first 4 months of 2003, before recovering a little at end-May.

⁶ At end-March 2003, outstanding SBIs amounted to Rp 120 trillion, compared with Rp 100 trillion and Rp 69 trillion one and two years earlier, respectively. To get a complete picture of BI’s open market operations, it is necessary to add FASBI, which is included in OMOs as reported in BI’s weekly data on base money. During 2002, total OMOs fluctuated within a fairly narrow range near Rp 115 trillion. They sharply rose in early 2003 and by late May they stood at almost Rp 136 trillion.

**Table 1: Sterilization Operations:
Contributions to Base Money**
(in *changes*, trillions of Rp)

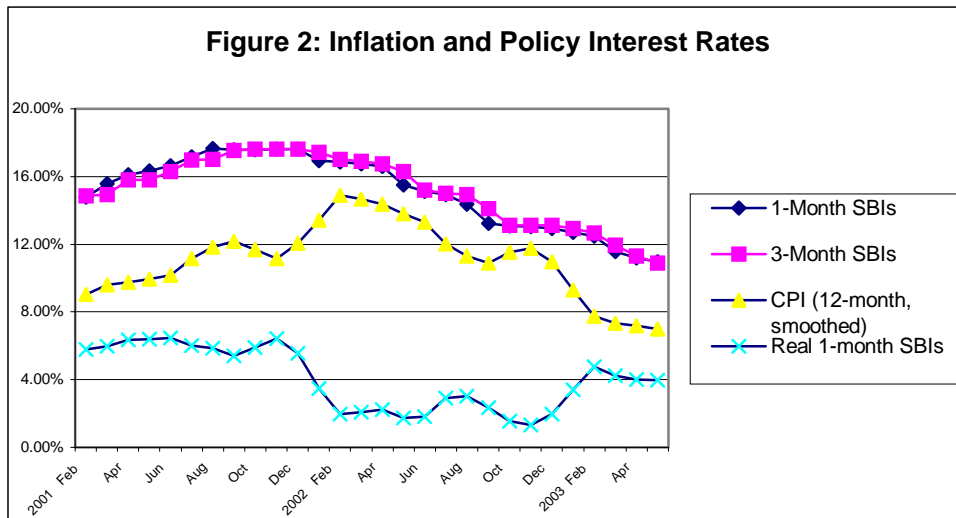
	Fm end-Dec 02 to end-Mar 03	Fm end-Mar 03 to end-Apr 03	Fm end-Apr 02 to 24 May	Fm end-Dec 02 to 24 May 03
Net Foreign Assets	7.0	7.4	4.1	18.5
Less: Open Market Ops.	-14.6	-3.4	-4.4	-22.4
Plus: Other NDA (net)	-5.4	-4.2	-1.9	-11.5
Equals:				
Base Money	-13.1	-0.2	-2.2	-15.5
Memo:				
Gross Foreign Assets (in billions of US\$)	\$ 1.0	\$ 1.0	\$ 0.8	2.8

Other interest rates have responded with considerable variation to this fall in 1-month SBI rates since late 2001.⁷ For example, 3-month SBI rates have mirrored the fall in 1-month SBI rates (see Figure 2). But deposit rates have declined much less, causing the differential between deposit and SBI rates (which had been 1 percentage point or more for several quarters) to virtually disappear by mid-March. This is surprising because it hurts banks' intermediation spreads and operating incomes. It may stem in part from a relatively small decline in the deposit guarantee rate relative to the SBI rate.

Sticky Lending Rates. For their part, lending rates (on investment and consumer credits and working capital) have hardly budged according to BI data.⁸ This pattern of downward rigidity has characterized lending rates for several quarters recently. There have, however, been some notable recent declines in lending rates that may post-date the available BI data. For example, analysts point out that BCA has dropped its lending rates (on working capital) as low as 14 ½% to 15% for its best customers. Its mortgage rates are also way down. Likewise, Panin Bank has dropped its rates on auto financing to about 17%, far below industry benchmarks of 20-22%. Consequently, benchmark rates at key private banks have dropped by 200 basis points or more during the past several months.

⁷ For their part, overnight inter-bank lending rates have tracked the FASBI rate closely, typically providing a risk premium (of about 50 bps) for lending to banks (instead of BI). Rates at the afternoon clearing are well below the morning clearing reflecting FASBI rules under which the afternoon FASBI rate is half the morning rate.

⁸ During Q1 2003, BI data indicate that consumer credit rates slipped by only 13 basis points (bps), remaining near 20%. Rates on working capital and investment credits were virtually unchanged near 18%.



Continuing Disintermediation. Bank Indonesia (and many other analysts) has argued that rigidity in lending rates indicates continuing weakness in bank intermediation that undermines the effectiveness of monetary policy. Without stronger linkages among policy rates (FASBI and SBI), deposit rates and lending rates, very large movements in SBI rates are likely to be needed to leverage changes in lending rates. And without changes in lending rates, the real economy's response to lower policy rates is likely to be disappointing.

The source of the rigidity seems to be attributable to three factors. First, corporate borrowing (which is the most interest-sensitive segment of the market) remains very limited. Second, state banks are again the market leaders in Indonesia, and normally they are not aggressive in their pricing policies.⁹ Third, most banks remain very conservative in their lending policies, having been traumatized by the crisis of 1997/98.

Who Wins and Who Losses? A polarized presentation of distributional effects of BI's two main policy levers is included in Table 2. Considerations related to sterilized intervention are discussed as Option #3 in the following Section.

⁹ A notable exception at the moment is Bank Mandiri, which is being aggressive in pricing its deposits. This is due to anticipated losses of deposits (estimated at Rp 15 trillion) due to the end of a grace period for deposit de-concentration by certain pension funds. It may be recalled that the merger of the 4 state banks into Bank Mandiri led to the violation of certain deposit concentration regulations, and Bank Mandiri was allowed a grace period for compliance. The grace period is due to expire around mid-2003.

Table 2: The Winners and Losers

	Winners	Losers
From:		
Lower Interest Rates	<ul style="list-style-type: none"> ▪ Capital-intensive industries ▪ Companies with domestic debt ▪ Companies wanting to borrow locally ▪ Holders of fixed rate bonds ▪ The central Government and BI 	<ul style="list-style-type: none"> ▪ Labor-intensive industries ▪ Savers ▪ Holders of variable rate bonds
Stronger Exchange Rate	<ul style="list-style-type: none"> ▪ Producers of non-tradable goods (e.g. labor, land & services) ▪ Companies with foreign debt 	<ul style="list-style-type: none"> ▪ Producers of tradable goods (e.g. exporters & importers) ▪ BI

A One-Way Bet. As of late May, all policy indicators point towards the need for further reductions in interest rates. For example, base money is running roughly Rp8 trillion (equivalent to 6% of base money) below BI's indicative target; inflation was already down to 6.9%, way below BI's target of 9% for 2003, with good prospects for further declines (see Appendix I); and real interest rates remained significantly positive. All this despite the covered differential vis-à-vis US\$ rates having narrowed appreciably in the past 6 months or so.

What To Do Next?

As next steps, *BI's FASBI rate should be reduced appreciably*, by 50 basis points, followed by an early return to the usual spread of 50-100 basis points vis-à-vis SBI rates.¹⁰ Continued maintenance of the present negative spread will unnecessarily slow any further declines in SBI rates. Beyond this, there are several options (see immediately below).

Option #1: Reduce SBI Rates More Aggressively

This would be *the standard policy response* to the current conundrum. Significantly lower (say, 200 basis points, which would leave real SBI rates at 2% or more; see Figure 2) SBI rates would trigger further declines in deposit and lending rates; limit the exchange rate appreciation; boost economic activity; and eventually raise base money closer to its target.¹¹ In support, BI could also accelerate the pace of decline its deposit guarantee rates.

¹⁰ Until recently, BI has tended to adjust the FASBI rate towards the end of the month about the time when they get their latest reading on inflation from the monthly CPI. With inflation already running well below BI's target, there is little to be gained by holding the FASBI rate steady through late June. During May, BI departed from this pattern by reducing the FASBI rate 3 times, at early, mid- and late month. This was a welcome development that looks likely to be repeated in June, following another rate reduction on June 5.

¹¹ Two beneficial side effects of lower SBI rates should be noted. First, fiscal costs fall due to lower interest payments on domestic debt. And second, Bank Indonesia's operating costs would fall.

Conservative Central Bankers. However, as BI staff plausibly argue,¹² the further SBI rates fall now, the harder it may be to get them back up when the inflows stop or reverse. This could become particularly important as next year's elections approach. In addition, there is the issue of limited pass through from SBI rates to the rates that have more influence on real economic activity, namely lending rates. (Steps to assist with these issues are covered below.)

Pessimistic Inflation Forecasters? BI's relatively slow reduction in SBI rates appears to result in part from its current inflation forecast of 8% or more.¹³ As indicated in Appendix I, this forecast still looks too high by at least 1 percentage point. As reality overtakes BI's forecast, its position on SBI rates will probably soften, but by then the capital inflows may have increased significantly, further complicating policy adjustment.

Option #2: Unsterilized Official Foreign Exchange Intervention

Under this option, Bank Indonesia would buy more dollars (sell rupiah) in the foreign exchange market. This would halt the appreciation; increase BI's stock of reserves, which could be sold if the capital inflows reverse; and push base money upwards, closer to its indicative target.

Counter-arguments run along the following lines. First, BI already has enough reserves to slow moderate pressures for depreciation; the stock would only be augmented by about US\$1 billion if this instrument were to close the entire gap between base money and its target. And second, without stronger linkages through to lending rates, (unsterilized) increases in base money would probably result in higher inflation, not stronger real growth.

In considering the balance between Options #1 and #2, it's important not to overstate their differences because of a symmetry in their effects. Namely, Option #1 operates directly on interest rates and indirectly on the exchange rate; Option #2 operates directly on the exchange rate and (without sterilization) operates indirectly on interest rates. One important difference in this regard concerns ultimate holdings of financial assets. Under Option #1, BI ends up holding less SBIs (and *paying less interest on its rupiah liabilities* at, say, 10% per annum); under Option #2, BI ends up holding more foreign exchange reserves (and earning more interest on its foreign assets, at say 2% per annum).

Option #3: Sterilized Official Foreign Exchange Intervention

As mentioned previously, BI has been sterilizing much of its foreign exchange intervention to date. Sterilized intervention is a genuine option, if the inflows are short-lived. Also, it's appealing to BI—despite the costs—because the instruments are totally under BI's

¹² This case was generally supported within the BI Board of Governors by the former Governor and an influential Deputy Governor. The IMF appears to have favoured lowering interest rates in line with the decline in expected inflation, essentially pursuing an inflation targeting approach.

¹³ BI's QI-2003 report to Parliament cites an inflation forecast of 8.8% for 2003. However, some BI staff feel that this may be dated, and that 8% is more likely.

control; it stabilizes both the exchange rate and interest rates; and it is executed quietly, behind the scenes.

However, in present circumstances and as noted earlier, this policy is likely to result in accelerated inflows in the short-term.¹⁴ If BI continues along these lines, increasing amounts of intervention will be needed to absorb the inflows, and increasing amounts of SBIs will be needed in order to sterilize the impact of the intervention on base money.

Three damaging outcomes of large-scale sterilized intervention should be noted.¹⁵

- **The institutional factor.** As the outstanding stock of SBIs surge, BI's financial accounts deteriorate. This factor together with exchange rate losses on holdings of foreign exchange, will probably cause BI to show an operational loss for 2003. This would be embarrassing for BI management to report to Parliament, particularly in the light of the continuing dispute over BI's financial accounts concerning the BLBI. Issuing smaller amounts SBIs at lower interest rates would be of significant assistance in this regard.
- **The legalistic factor.** Oddly, BI's legal basis (The Central Bank Act) calls for the central bank to maintain a minimum CAR of 5%. Financial losses would quickly cause this limit to be breached, requiring the government to re-capitalize the central bank. Ironically, this could further reduce base money.
- **The substantive issue.** There are limits to BI's capacity to issue SBIs, and if these limits are pushed, BI's capacity to implement monetary policy could be undermined. Roughly speaking, the limits are approaching when BI has to start issuing significant amounts of SBIs to absorb the impact on base money of interest payments on its SBIs. When this happens, the SBI issuance process risks slipping into instability. It's important to note that these limits are not a threat at present.

Option #4: Remove the Fiscal Distortion Encouraging Mutual Funds.

To bolster monetary policy, the tax exemption on mutual funds should be eliminated or significantly narrowed.¹⁶ As detailed in a separate note, this distortion is probably a significant contributing factor to the capital inflows; its removal would ease pressure on the exchange rate and reduce other risks detailed in the accompanying note. To avoid the possibility of sudden flow reversals, the tax exemption could be phased out, over say a 2-year period.

¹⁴ As of early June, BI staff did not feel that the capital inflows were becoming unmanageably large.

¹⁵ As an option to continued expansion of the stock of SBIs, BI could increase banks' reserve requirements. Banks would object because, effectively, this would substitute non-interest earning deposits at BI for FASBI, which earned 10 1/4% (morning rate) in early June.

¹⁶ It's notable that much of the 1997/98 discussion of the dangers of 'hot money' championed the use of taxes on capital *inflows* as an instrument to reduce flow volatility and to limit capital *outflows*, the so-called Chilean model. At present, tax policy in Indonesia, is doing exactly the opposite, namely, encouraging short-term inflows by subsidizing mutual funds. It seems premature to consider taxing the inflows at this point; a simpler first step would be to eliminate the tax subsidy. Some thought could be given to tax options, if the conventional measures, suggested in this study, do not stem the inflows.

Some agencies might oppose this step on the grounds that developing the debt market is very important, and that expansion of mutual funds is an important instrument in this regard. This is correct as far as it goes. However, as argued in the separate note, the current pace of expansion is dangerous; the resultant inflows are generating macroeconomic imbalances; and it's costing the government substantial tax revenues.

Option #5: Activate Moral Suasion

The largest banks in Indonesia are state banks, and there are questions as to the depth of their commercial motivations.¹⁷ Consequently, they are normally not aggressive in their pricing of loans and deposits, particularly since loans comprise substantially less than half of their total assets.

In these circumstances, the state bankers may need a push from the authorities (the Governor of Bank Indonesia, the Minister of Finance and the Minister of State-Owned Enterprises) to lower their lending rates. The recent changes in Bank Indonesia management present an opportunity to pursue this course, signaling more coordination among the authorities and a tougher stance vis-à-vis the sheltered sections of Indonesia's banking system.

Recommendations

Several steps would be useful, implemented more or less simultaneously:

i) Concerning policy rates, Bank Indonesia should immediately lower the FASBI rate by 50 bps, and return to a more normal spread of 50-100 bps relative to SBI rates. For their part, 1-month SBI rates should decline at a pace of 50 bps per week, until the exchange rate shows signs of stabilizing without BI intervention.¹⁸

ii) To ease the capital inflows, the Government should begin public discussions with Parliament on eliminating the tax exemption on mutual funds in the August 2003 Budget.

iii) If BI continues to intervene in the foreign exchange market, the impact on base money should not be fully sterilized. The resulting increase in base money should be allowed to push SBI rates downward, roughly at the pace noted above.

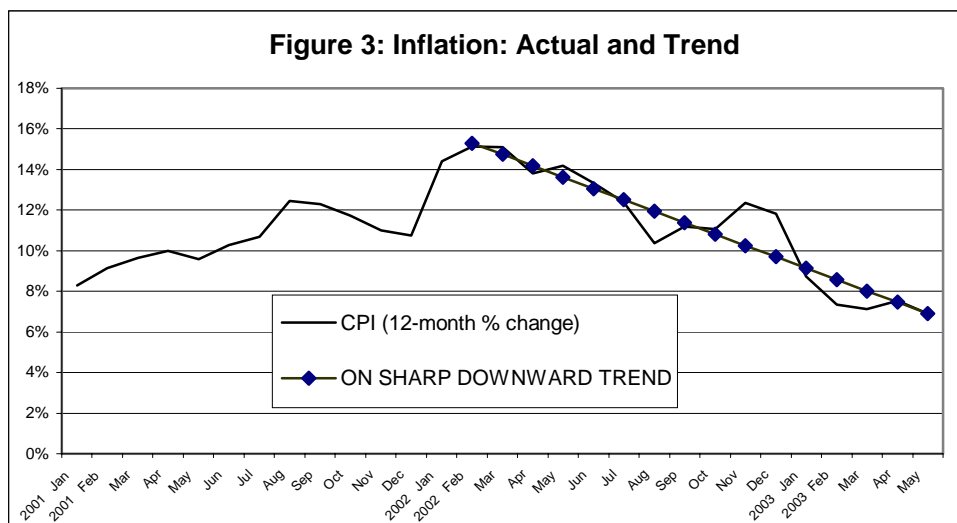
iv) To improve the responsiveness of deposit rates, BI should reduce the deposit guarantee rate by 50-100bps very soon, and maintain the spread relative to SBI rates as the latter decline. To increase the responsiveness of lending rates, the three main state banks could be requested to lower their base lending rates by 100 bps at an early date.

¹⁷ For instance, there is plenty of evidence that weak Indonesian state banks will eventually get a government bail-out. History indicates that the worst-case scenario is that management will be changed and banks merged.

¹⁸ Two successive weekly reductions of 50 bps might be enough to shift market expectations about BI's intended pace of interest rate declines.

Appendix I: The Outlook for Inflation

Inflation has dropped markedly in the past year or so. After peaking at more than 15% in early 2002, it has been on a sharp downward trend (see Figure 3).



As of late May 2003, most signs were pointing towards further declines. For example:

- World inflation in US\$ seemed to be running at about 3% or less, with several countries in the region experiencing mild deflation.
- There is little likelihood of a pickup in world inflation anytime soon. Indeed, concerns in many quarters have turned to the risks of deflation.
- The Rupiah has strengthened markedly since the Bali bombings of last October. The appreciation amounts to almost 10% to date in 2003.
- The strong rupiah and low world inflation imply that imported inflation is strongly negative at present.
- Base money growth is restrained, expanding recently at about 7-9% per annum.
- There is substantial excess capacity in manufacturing and real demand is increasing only moderately, at about 4% per annum. And,
- A good rice harvest appears in hand.

Balanced against these factors are only two notable developments that could put upward pressure on inflation, namely, pending administrative price increases and military operations in Aceh. In the case of the former, pressures are less than in 2002, due to moderate increases in minimum wages and to the rupiah's appreciation. Concerning the latter, supply shortages and inflation seem likely to be quite localized.

Analytical results support lower inflation. For example, the 12-month rate looks set to drop sharply in May, probably to less than 7% (compared with 7 1/2 % in April). Indeed,

Bappenas' short-term forecasting model projects a CPI increase of less than 0.1% in May. This mainly stems from the recent strength of the Rupiah and a relatively large (0.8%) month-to-month increase in May 2002 (which drops out of the 12-month calculation this month).

Pushing the analysis further ahead using the Bappenas econometric model noted above, and based upon recent trends in key variables,¹⁹ the CPI is likely to slide further during the remainder of this year as the impact of the rupiah's appreciation filters through.²⁰ Inflation could well finish the year at 6% or less and hold approximately steady in 2004.

Some alternatives are presented in the attached Tables.

Inflation Forecast #1 for 2003

<u>2003</u>	<u>Monthly Inflation</u>	<u>CPI Index</u>
		100.0
Jan	0.80%	100.8
Feb	0.20%	101.0
Mar	-0.15%	100.9
Apr	0.14%	101.0
May	0.11%	101.1
Jun	0.16%	101.3
Jul	0.58%	101.9
Aug	0.21%	102.1
Sep	0.32%	102.4
Oct	0.47%	102.9
Nov	1.84%	104.8
Dec	1.66%	106.5
2003		6.5%

Assumptions for May to December 2003:

Exchange rate = average Rp8,900 for 2003

Base money growth at 8% p.a.

Interest rates average 11.8%

GDP growth = 3.8% p.a.

Rice prices increase by 5% p.a.

Fuel price = no changes since May

Wages = no changes since May

¹⁹ In particular, assuming that the rupiah holds at current levels and that M0 continues to expand at around 8% per annum.

²⁰ Econometric results indicate that the impact of the exchange rate takes only a few quarters to filter through to inflation. Roughly 3/4s of the impact accrues after 6 months.

Inflation Forecast #2 for 2003

<u>2003</u>	<u>Monthly Inflation</u>	<u>CPI Index</u>
		100.0
Jan	0.80%	100.8
Feb	0.20%	101.0
Mar	-0.15%	100.9
Apr	0.14%	101.0
May	0.11%	101.1
Jun	0.06%	101.3
Jul	-0.02%	101.2
Aug	-0.29%	100.9
Sep	0.05%	101.0
Oct	0.33%	101.3
Nov	1.73%	103.1
Dec	1.51%	104.6
2003		4.6%

Assumptions for May to December 2003:

Exchange rate = Rp8100 for the rest of 2003

Base money growth at 8% p.a.

Interest rates average 11.8%

GDP growth = 3.8% p.a.

Rice prices increase by 5% p.a.

Fuel price = no changes since May

Wages = no changes since May

Inflation Projections under different scenarios for exchange rate, interest rates, and base money growth in 2003.

	Interest rates (monthly average)			
Exchange rate (monthly average)	9.5%	11.7%	12.5%	Base money growth (annual rate)
Rp8939	4.4%	4.5%	4.7%	8.5%
	5.2%	5.3%	5.5%	12%
Rp9201	5.0%	5.2%	5.3%	8.5%
	5.8%	6.0%	6.1%	12%
Rp9534	6.0%	6.2%	6.3%	8.5%
	6.7%	6.9%	7.0%	12%

Shaded inflation figures are based on real interest rate of around 5%, consistent with pre-crisis, average real interest rates.

Other assumptions are:

Annual wage growth = 10%

Annual rice price increases = 5%

Fuel price increases = no change

GDP growth = 4.5%